

Comparisons of Job Characteristics

Focus Occupation: **Agricultural Engineers (17-2021)**

Associated Occupation: **Hydrologists (19-2043)**

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 72

Focus Occupation: Agricultural Engineers (17-2021)

Associated Occupation: Hydrologists (19-2043)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Mathematics	9.2	17.7	20.1	>	Current knowledge level is likely sufficient
Engineering and Technology	5.7	17.4	23.4	>>	Current knowledge level is likely more than sufficient
Geography	3.9	16.7	9.2	<<	Extensive education and/or training may be required
Physics	4.3	15.7	18.4	>	Current knowledge level is likely sufficient
Chemistry	4.8	15.6	12.1	<<	Extensive education and/or training may be required
Biology	3.7	13.6	11.0	<	Expanded education and/or training may be required
Design	5.2	12.6	21.5	>>	Current knowledge level is likely more than sufficient
Law and Government	5.9	11.3	10.2	<	Expanded education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 88

Focus Occupation: Agricultural Engineers (17-2021)

Associated Occupation: Hydrologists (19-2043)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Critical Thinking	10.8	14.5	15.0	0	Current skill level may be sufficient
Science	4.5	13.0	9.7	<<	Extensive development of skills in this area may be required
Mathematics	6.2	12.8	12.0	0	Current skill level may be sufficient

Programming	2.2	6.5	3.8	<<	Extensive development of skills in this area may be required
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The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities	Similarity of Focus Occupation to Associated Occupation: 97
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Focus Occupation: Agricultural Engineers (17-2021) Associated Occupation: Hydrologists (19-2043)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Inductive Reasoning	10.2	14.6	14.0	0	Current ability level may be sufficient
Written Comprehension	11.0	14.6	15.2	0	Current ability level may be sufficient
Written Expression	9.8	14.1	14.5	0	Current ability level may be sufficient
Problem Sensitivity	11.1	13.9	13.9	0	Current ability level may be sufficient
Mathematical Reasoning	6.3	13.8	11.5	<	Some improvement in abilities may be required
Deductive Reasoning	10.6	13.4	13.9	0	Current ability level may be sufficient
Flexibility of Closure	7.8	12.0	9.6	<	Some improvement in abilities may be required
Originality	7.6	11.5	9.6	<	Some improvement in abilities may be required
Fluency of Ideas	7.6	11.3	9.8	<	Some improvement in abilities may be required
Category Flexibility	9.0	11.2	12.2	0	Current ability level may be sufficient
Number Facility	6.3	10.8	11.0	0	Current ability level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common	Similarity of Focus Occupation to Associated Occupation: 81
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Focus Occupation: Agricultural Engineers (17-2021) Associated Occupation: Hydrologists (19-2043)	
Work Activities	Exclusivity of Activity
Advise clients or customers	19
Analyze ecosystem data	69
Analyze scientific research data or investigative findings	27
Collect scientific or technical data	30
Communicate technical information	4
Confer with research personnel	50
Confer with scientists	54
Develop or maintain databases	30
Develop plans for programs or projects	31

Develop policies, procedures, methods, or standards	21
Develop tables depicting data	33
Direct and coordinate scientific research or investigative studies	27
Direct implementation of new procedures, policies, or programs	60
Explain complex mathematical information	30
Interpret aerial photographs	69
Plan scientific research or investigative studies	48
Prepare reports	8
Prepare technical reports or related documentation	22
Read maps	42
Resolve engineering or science problems	46
Use building or land use regulations	65
Use computers to enter, access or retrieve data	3
Use geographic positioning system (GPS)	81
Use knowledge of investigation techniques	16
Use library or online Internet research techniques	21
Use mathematical or statistical methods to identify or analyze problems	30
Use quantitative research methods	35
Use relational database software	26
Use scientific research methodology	21
Use spreadsheet software	18
Use word processing or desktop publishing software	17

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 92

Focus Occupation: Agricultural Engineers (17-2021)
Associated Occupation: Hydrologists (19-2043)

Tools and Technologies	Exclusivity
Computer printers	2
Computers	1
Content authoring and editing software	1
Industry specific software	1
Information exchange software	1
Network applications software	1

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.